(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 23 December 2004 (23.12.2004)

PCT

(10) International Publication Number WO 2004/111677 A1

(51) International Patent Classification⁷: H04Q 7/38 // 7/32, 7/22

G01S 5/00,

(21) International Application Number:

PCT/F12004/050088

(22) International Filing Date: 10 Jun

10 June 2004 (10.06.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 20035094

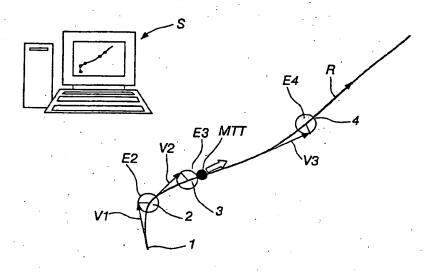
12 June 2003 (12.06.2003)

- (71) Applicant (for all designated States except US): INDAGON OY [FI/FI]; Nuijamiestentie 5 A, FI-00400 Helsinki (FI).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): MIKKOLAINEN, Markus [FI/FI]; Kaivosrinteentie 2 U 161, FI-01610 Vantaa (FI). SÄRKKÄ, Simo [FI/FI]; Auringonkatu 8 G 67, FI-00210 Espoo (FI).

- (74) Agent: Leitzinger Oy; Tammasaarenkatu 1, FI-00180 Helsinki (FI).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: A METHOD AND AN ARRANGEMENT FOR ESTIMATING THE POSITION OF A MOBILE TERMINAL WITH A PREDICTION METHOD, AND A MOBILE TERMINAL



(57) Abstract: A method an arrangement to reduce amount data to be sent in a tracking system of a mobile station (MTT) having a positioning device to obtain positioning data, and the mobile station (MTT) and the server (S) perform the following steps: the mobile station (MTT) sends its dynamic state parameters including at least the position and velocity, which are derived from the positioning measurements, to server (S), the mobile station (MTT) computes an error criterion based on said sent dynamic state and current dynamic state, which is derived from new positioning measurements, such that the error criterion is calculated based on at least sent and current velocities, the mobile station (MTT) sends a set of new dynamic state parameters, when the said error criterion is over a predefined limit.

4/111677 A1

WO 2004/111677 A1



Published:

- with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.